Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~Optical inclinometer~~ An optical inclinometer, comprising

- a radiation source ~~(11, 11', 11")~~ for generating ~~radiation (S), in particular a semiconductor laser or an LED~~;radiation;

- a ~~medium (6, 6'),~~ medium having an inclination-sensitive surface and having an ~~the~~ optical interface ~~of~~ which is inclination-dependent;

- a ~~detector (3', 3", 3'"), preferably having a CMOS or CCD microcamera,~~ detector for recording and converting an image into signals; and

- an evaluation unit ~~(9', 9", 9'")~~ for determining ~~the~~ an inclination;

wherein the radiation source ~~(11, 11', 11")~~ and the detector ~~(3', 3", 3'") being~~ are arranged so that the wavefront ~~(WF2, WF3, WF4)~~ is focused indirectly or directly, in reflection and/or transmission, onto the detector ~~(3', 3", 3'")~~ by ~~means of~~ at least a part of the ~~medium (6, 6')~~;medium;

~~characterized in that~~wherein the detector ~~(3', 3", 3'")~~ has a wavefront sensor or the detector ~~(3', 3", 3'")~~ is ~~in the form of~~ a wavefront sensor.

2. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the medium ~~has an inclination-sensitive surface, in particular~~ is a liquid.

3. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the radiation ~~source (11, 11', 11'",~~ source, the medium ~~(6, 6')~~ and the detector ~~(3', 3", 3'")~~ are arranged so that the ~~radiation (S)~~ radiation is fed substantially

perpendicularly to at least one surface of the medium ~~(6, 6')~~ during a passage through the ~~medium (6, 6').~~medium.

4. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the detector ~~(3', 3", 3"')~~ has at least one diffractive element ~~(14)~~ which is arranged on an array of ~~microlenses (7).~~microlenses.

5. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the detector ~~(3', 3", 3"')~~ is ~~in the form of~~ a Shack-Hartmann wavefront sensor or has a Shack-Hartmann wavefront sensor.

6. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the detector ~~(3', 3", 3"')~~ is mounted indirectly or directly on a container containing the ~~medium (6, 6').~~medium.

7. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the detector ~~(3', 3", 3"')~~ has a detector surface which ~~resolves~~ ~~in~~has two ~~dimensions, in particular having an orientation of the detector surface parallel to a surface of the medium (6, 6').~~dimensions.

8. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein the radiation source ~~(11, 11', 11")~~ and the detector ~~(3', 3", 3"')~~ are arranged on a ~~common base (12, 12'),~~ common base.~~preferably a circuit board.~~

9. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 8, ~~characterized in that~~ wherein the radiation source ~~(11, 11', 11")~~ and the detector ~~(3', 3", 3"')~~ are arranged so that the ~~radiation (S)~~ radiation generated is emitted perpendicularly to ~~the~~ a surface of the base ~~(12, 12')~~ and ~~the~~ a receiving direction of the detector ~~(3', 3", 3"')~~ is oriented perpendicularly to the surface of ~~the base (12, 12').~~the base.

10. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein at least one deflection element ~~(13', 13")~~ is arranged in ~~the~~ a beam path from the radiation source ~~(11, 11', 11")~~ to the ~~detector (3', 3", 3'").~~detector.

11. (Currently Amended) ~~Optical~~ The optical inclinometer according to Claim 1, ~~characterized in that~~ wherein at least one diffractive and/or optical-gradient ~~element (10), in particular a Fresnel lens~~ element is arranged in ~~the~~ a beam path from the radiation source ~~(11, 11', 11")~~ to the ~~detector (3', 3", 3'").~~detector.

12. (Currently Amended) A geodetic ~~Geodetic~~ device~~, in particular telemeter or plumb staff, having~~ comprising an inclinometer according to Claim 1.

13. (Currently Amended) ~~Method~~ A method for measuring ~~the~~ an inclination of a device~~, in particular of a geodetic device, comprising~~ that includes

~~———————~~a radiation source ~~(11, 11', 11")~~ for generating ~~radiation (S), in particular a semiconductor laser or an LED;~~radiation;

~~———————~~a ~~medium (6, 6'),~~medium having an inclination-sensitive surface and having an ~~the~~ optical interface ~~of~~ which is inclination-dependent;

~~———————~~a ~~detector (3', 3", 3'"), preferably having a CMOS or CCD microcamera,~~ detector for recording and converting an image into signals; and

~~———————~~an evaluation unit ~~(9', 9", 9'")~~ for determining ~~the inclination;~~ an inclination,

~~———~~wherein the radiation source ~~(11, 11', 11")~~ and the detector ~~(3', 3", 3'") being~~ are arranged so that the wavefront ~~(WF2, WF3, WF4)~~ is focused indirectly or directly, in reflection and/or transmission, onto the detector ~~(3', 3", 3'")~~ by ~~means of~~ at least a part of the ~~medium (6, 6');~~medium,

the method comprising the steps of:

- focusing of the wavefront ~~(WF2, WF3, WF4)~~ onto the ~~detector (3', 3", 3'"),~~detector;

- recording of the signals of the ~~detector (3', 3", 3'"),~~detector; and

~~evaluation of~~ - evaluating of the signals and ~~determination of~~ determining of the inclination of the ~~device~~ device; ~~by the evaluation unit (9', 9", 9'"),~~

~~characterized in that, on evaluation~~ wherein during the evaluating of the signals, information about the ~~wavefront (WF2, WF3, WF4), in particular the form function of the wavefront (WF2, WF3, WF4),~~ wavefront is derived.

14. (Currently Amended) ~~Method~~ The method according to Claim 13, ~~characterized in that, on evaluation~~wherein, during the evaluating of the signals, an analysis of the deviation of the wavefront ~~(WF2, WF3, WF4)~~ from the wavefront ~~(WF1)~~ before an interaction with the medium is effected.

15. (Currently Amended) ~~Method~~ The method according to Claim 13, ~~characterized in that, on~~ wherein, during the recording of the signals and/or ~~on evaluation~~ during the evaluating of the signals, a reconstruction of the wavefront ~~(WF1)~~ before an interaction of the medium ~~(6, 6')~~ is effected.

16. (Currently Amended) ~~Method~~ The method according to Claim 13, ~~characterized in that, on~~ wherein, during the recording of the signals and/or ~~on evaluation~~ during the evaluating of the signals, individual image points of the detector ~~(3', 3", 3'")~~ are selected.~~selected, preferably only these image points being used for determining the inclination of the device.~~

17. (Currently Amended) ~~Method~~ The method according to Claim 13, ~~characterized in that, on~~ wherein, during the ~~evaluation~~ evaluating of the signals, the form function is derived by ~~means of~~ a polynomial approach~~, in particular using Zernike polynomials~~.

18. (Currently Amended) ~~Method~~ The method according to Claim 13, ~~characterized in that, on~~ wherein, during the recording of the signals and/or ~~on~~ during the evaluating ~~evaluation~~ of the signals, different apertures are correlated with one another.

19. (Currently Amended) ~~Use of a~~ The method according to Claim 13 being used for compensating vibrations and/or random fluctuations of at least one surface of ~~the medium (6, 6'), in particular owing to convection processes.~~ the medium.

20. (Currently Amended) ~~Wavefront~~ A wavefront sensor for use in an optical inclinometer according to Claim 1, ~~comprising~~comprising:

~~a camera (8), preferably comprising a CMOS or CCD microcamera,~~ a camera for recording and converting ~~an~~ the image into the signals; and

an array of ~~microlenses (7)~~microlenses,

~~characterized in~~ wherein that at least one diffractive ~~element (14)~~ element is coordinated with the array of ~~microlenses (7).~~microlenses.

21. (Currently Amended) ~~Wavefront~~ The wavefront sensor according to Claim 20, ~~characterized in~~ wherein ~~that~~ the diffractive ~~element (14)~~ element is a hologram or a grating. ~~grating, in particular a Dammann grating.~~

22. (New) The optical inclinometer according to Claim 1, wherein the radiation source is a semiconductor laser or an LED.

23. (New) The optical inclinometer according to Claim 1, wherein the detector has a CMOS microcamera or CCD microcamera.

24. (New) The optical inclinometer according to Claim 7, wherein the orientation of the detector surface is parallel to a surface of the medium.

25. (New) The optical inclinometer according to Claim 8, wherein the common base is a circuit board.

26. (New) The optical inclinometer according to Claim 11, wherein the at least one diffractive and/or optical-gradient element is a Fresnel lens.

27. (New) The optical inclinometer according to Claim 12, wherein the geodetic device is a telemeter or a plumb staff.

28. (New) The method according to Claim 13, for measuring the inclination of a device, wherein the device is a geodetic device.

29. (New) The method according to Claim 13, wherein the radiation source is a semiconductor laser or an LED.

30. (New) The method according to Claim 13, wherein the information about the wavefront is a form function of the wavefront.

31. (New) The method according to Claim 13, wherein the detector has a CMOS microcamera or a CCD microcamera.

32. (New) The method according to Claim 16, wherein only the individual image points are used for determining the inclination of the device.

33. (New) The method according to Claim 17, wherein the polynomial approach uses Zernike polynomials.

35. (New) The wavefront sensor according to Claim 20, wherein the camera includes a CMOS microcamera or a CCD microcamera.

36. (New) The wavefront sensor according to Claim 21, wherein the diffractive element is a Dammann grating.